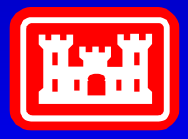
PIANC WG49: Horizontal and Vertical Dimensions of Fairways

PIANC USA Annual Meeting 2008
Institute for Water Resources
Alexandria, VA

Dr. Michael J. Briggs
U.S. Principal Representative



US Army Corps of Engineers

Coastal and Hydraulics Laboratory - ERDC

Objectives

- Review, update, expand design recommendations on horizontal and vertical dimensioning in Working Group 30 report of 1997 on approach channels
- Recent developments in simulation and design tools
- Sizes and handling characteristics of new generation vessels

Membership

- Dr Mark McBride, Chair
  HR Wallingford Ltd, UK
- 12 countries represented
  Australia, Belgium, Canada, Finland, France, Germany, Japan, Netherlands, South Africa, Spain, UK, USA
- 20 members
  IAPH representatives
  IMPA representative
  2 IALA representatives

Final Product of the Working Group

- Updated 1997 PIANC-WG30 report
  Approach channels A Guide for Design
- Guidelines and recommendations
  Horizontal and vertical dimensions of approach fairways/channels to harbors and terminals
  Maneuvering areas within harbors for assisting in design process
  Defining restrictions to operations within a channel
  Establishing vertical bridge clearances and depth requirements

Method of Approach

- Vertical motions of ships in approach channels (due to squat, wave-induced motions, dynamic effects etc.)
- Vertical clearances under bridges, overhead cables etc.
- Safety criteria, assessment of levels of risk and appropriate clearance margins
- Simulation of ships in channels
- Methods for assessing environmental (Metocean) operating limits
- New and future generation ship dimensions/maneuvering characteristics
- Maneuvering limits in adverse conditions (e.g. tug effectiveness at speed and in adverse wave, current and wind conditions)
- Restrictions on pilot boarding, tug attachment and detachment and the time required

Subgroup Organization

- General report

  Mark McBride (Spokesperson), Larry Cao, Jarmo Hartikainen, Carlos Sanchidrian Fernández, Masanori Tsugane
- Horizontal dimensions

  Rink Groenveld (Spokesperson, WG30), Don Cockrill, Werner Dietze (WG30), Masayoshi Hirano, Jose Iribarren Alonso, Paul Scherrer
- Vertical dimensions

  Michael Briggs (Spokesperson), Martin Boll, Pierre Debaillon, Hans Moes, Terry O'Brien, Kohei Ohtsu, Esa Sirkiä, Marc Vantorre

Meetings

No.	Date	Location	Attendees
1	8-9 Jul 05	Madrid, Spain	8 (Chair not attend)
2	30 Sep 05	Brussels, Belgium	9 (PIANC Hdqtrs)
3	19 May 06	Lisbon, Portugal	14
4	10 Nov 06	Wallingford, UK	17 + 5 guests
5	26-27 Apr 07	Vicksburg, MS	9 + 3 guests
6	25-26 Oct 07	Antwerp, Belgium	17 + 2 guests
7	17-18 Apr 08	Waginengen, Netherlands	16 + 4 guests
8	1-2 Oct 08	Le Havre, France	
9	Apr 09?	?	

Progress

- Each subgroup tasked with reviewing latest version of report structure and identifying content and parts of WG30 report that can be used, where new content is required, and how this can be achieved
- U.S. Section Subcommittee formed

  Michael Briggs, Zeki Demirbilek, Paul Kopp, Ian Mathis, Sarah Mouring, Andy Silver, Jennifer Waters, Dennis Webb
- Second drafts of individual sections
- 75 percent complete
- 2 more meetings scheduled till completion

Questions?